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# Positive and negative evaluation of caregiving among three different types of informal care relationships

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**Abstract** Based on the caregiver stress model, we examined how care demands, caregiver motivation, coping style and external support are associated with positive evaluation and caregiver burden among spousal, adult child and other types of care relations. Data from a sample of Dutch informal caregivers of 1,685 older persons (55 and older) were analyzed employing multivariate linear regression analyses for each of the care relationship types. Spouses ( $N = 206$ ) report high positive evaluation and high burden, adult children ( $N = 1,093$ ) report low positive evaluation, and other caregivers ( $N = 386$ ) report high positive evaluation and a low burden. Multivariate linear regression analyses showed that motives and external support were important for positive evaluation but the impact varied among types of caregivers, whereas care demands and not asking for help were associated with burden for all types. Only among ‘other’ caregiver relationships, positive evaluation was negatively associated with burden. It is concluded that results confirm the dual nature of caregiving among spouses and children. The care context and motivation of the different types of caregivers explain their differences in care evaluation. Various interventions for types of caregivers are discussed.

**Keywords** Informal care · Older adults · Positive evaluation · Burden · Caregiver

## Introduction

This study extends the knowledge on informal caregivers of older adults by studying both positive and negative evaluations among different types of care relationships. Most studies focus on the negative evaluations of caregivers, as expressed in terms of stress and burden, but caregiving can also be viewed as a positive experience (Lawton et al. 1991; Zarit 2012). Moreover, positive and negative evaluations of caregiving seem to reflect separate dimensions of caregiving that have different predictors and differing outcomes (e.g. Iecovich 2011; Kramer 1997a). The dual nature of caregiving may differ further according to the nature of the care relationship. For example, spouses tend to report not only greater burden but also more positive aspects of caregiving than adult children who provide care to their older parents (Lawton et al. 1991; Rapp and Chao 2000; Tarlow et al. 2004). Some studies show that the transition into the caregiving role is experienced more positively among non-kin caregivers than among spouses and adult children (Cohen et al. 2002; Marks et al. 2002). Such differences in caregiving evaluation may arise because spouses, adult children and other types of caregivers differ in the opportunities they have to provide care as well as in their motivation for caring (Lyonette and Yardley 2003; Pinquart and Sörensen 2011; Schulz et al. 2012), both of which are important predictors of caregiver evaluation. Some aspects of the care context (such as behavioural problems on the part of the care receiver) show stronger associations with caregiver burden among spousal caregivers than among adult children (Pinquart and Sörensen 2003). Lawton et al. (1991) reported a significant association between the intensity of help and positive care evaluation among adult children but not among spouses. Such differential effects are often overlooked in studies

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that combine spouses, adult children and other types of caregivers in their analytical samples (Balducci et al. 2008; Baronet 2003; Cohen et al. 2002; Hilgeman et al. 2009; Rapp and Chao 2000). Another point of note is that other kin, friends and neighbours are increasingly taking up the role of caregiver (Barker 2002), but little is known about the correlates of positive and negative evaluations in this group. Thus, a better understanding of the predictors of positive and negative evaluations of caregiving and of the inter-relationships between positive and negative care evaluations requires differentiation among the different types of care relationships. The aim of our study, therefore, is to examine the degree to which the correlates of positive and negative caregiver evaluation differ by type of care relationship. The data used are derived from a large sample of informal caregivers of older adults in the Netherlands.

### The caregiver stress model

In order to understand the differences between caregiver evaluations, we use an adapted version of the caregiver stress model by Pearlin et al. (1990). The model is based on the notion that caregiving is a stressful experience, in which the amount of perceived stress is based on objective stressors, such as the care context and characteristics of the care receiver. Caregiver burden is generally used as an indicator of a subjective evaluation of the care context and care activities, and has been positively associated with such objective stressors as the duration and hours of caregiving and the physical and/or cognitive impairment of the care recipient (e.g. Pinquart and Sörensen 2003; Savundranayagam et al. 2011; Yates et al. 1999). The impact of objective stressors on care burden can be mediated by caregiver psychological and social resources, such as coping style and social support, but burden can also be increased by secondary stressors, such as difficulties in combining work and family roles as a result of caregiving. Many studies provide evidence for associations between caregiver burden and objective stressors in the care context on the one hand, and personal and social resources of the informal caregiver, on the other hand (Chapell and Reid 2002; Hilgeman et al. 2009; Robertson et al. 2007; Yates et al. 1999).

It can be assumed that this caregiver stress process may also be underlying the positive evaluation of the caregiving, but there is far less empirical evidence to prove this. The number of empirical studies on the positive evaluation of caregiving is growing, but results are inconsistent and studies lack comparability due to the use of different outcome measures (gain, satisfaction, uplifts, personal benefits, e.g. Iecovich 2011; Kramer 1997b; Pinquart and Sörensen 2003; Shirai et al. 2009). Still, it can be concluded from existing literature that positive and negative caregiver evaluations have partly different determinants. Where care burden is more strongly directly associated

with characteristics of the care context, such as the degree of physical impairment of the caregiver and the intensity of caregiving (e.g. Iecovich 2011; Yates et al. 1999), positive evaluation seems to be more strongly associated with the quality of the bond between caregiver and care receiver (Kramer 1993; Lopez et al. 2005) and attitudes towards caregiving (Kramer 1997a). In addition to differential types of determinants, some determinants may have contrasting effects on the two types of care evaluation. For example, problematic behaviour on the part of the care receiver is known to impair the relationship quality between care receiver and caregiver which may, in turn, increase caregiver burden (Savundranayagam et al. 2011) and lower positive evaluations as well (Tarlow et al. 2004). In examining the same conceptual model for both types of caregiver evaluations, we will be able to explore the differential effects of the determinants on positive and negative care evaluation.

### Types of care relationships

In general, the caregiver stress model should be applicable to all types of care relationships, and variations in evaluations between spouses, children and other types of caregivers (referred to from here on as ‘other caregivers’ for reasons of parsimony) should be reflected in variations in the determinants of care evaluation. Variations in care context and caregiver characteristics are known to exist between types of care relationships (e.g. Pinquart and Sörensen 2011) and may explain why spouses report more burden than non-spousal caregivers. A simple explanation is that spousal caregivers are much older, more often co-residents, performing longer hours of care and suffering more from relationship stress than non-spousal caregivers, resulting in higher levels of burden (Pinquart and Sörensen 2011). Spouses are also more likely to be sole caregivers. Shirai et al. (2009) add in this respect that social networks vary their assistance to caregivers depending upon role expectations: spouses receive less support from family and friends compared to adult children, because spouses are expected to be more involved in intense care provision to their impaired partner. Receiving no or little help from others may increase the level of burden for spouses. There is also evidence that spouses report relatively high levels of positive evaluations, which can be explained by the fact that spouses are far more committed to caregiving and this may result in more positive evaluations regardless of the intensity of care provision (Lawton et al. 1991). Moreover, many spousal caregivers manage to keep their spouse from being institutionalized, an outcome that they consider to be rewarding and which increases their positive evaluations of the care.

Adult children, in contrast, have more choice to decide whether or not to provide care (Raschick and

Ingersoll-Dayton 2004; Schulz et al. 2012) and may vary more in their level of commitment. Some of them may feel obliged to give care, either normatively (filial obligation) or structurally (lack of alternative caregivers), resulting in a stronger association between caregiver motivation and care burden. Compared to spouses, adult children more often combine informal care with paid employment and family activities, which may cause for secondary stressors in the lives of the children. However, the impact of these contextual aspects on positive and negative evaluation of care is not substantial and does not differ largely between spouses and children (Pinquart and Sörensen 2011).

Other caregivers generally assist the more traditional caregivers (spouses or adult children) and perform less intense care for shorter periods of time (Barker 2002; Egging et al. 2011; Himes and Reidy 2000). Due to their relatively low care intensity, a lower care burden can be expected compared to spouses and adult children. Marks et al. (2002) stressed that for non-kin caregivers the choice to provide care is less guided by the normative obligations that mark spousal and parent–child relationships, and is based more on consideration of perceived opportunities and costs or on a strong bond that they have developed with the care recipient. Insofar as these other caregivers may feel less obliged to provide care, their sense of burden may be lower and sense of satisfaction may be higher. As already noted, these caregivers frequently share the care with multiple helpers and this may also alleviate the burden and increase the positive evaluation of caregiving.

## Method

### Sample

Data for the present analysis were drawn from a larger study on informal care that was executed by Statistics Netherlands and The Netherlands Institute for Social Research in 2007 (De Boer et al. 2009). A two-step procedure was used in the larger study to identify informal caregivers in a population-based sample. First, informal caregivers were identified by means of the Labor Force Survey (carried out by Statistics Netherlands in 2007), a population-based survey on a random adult population sample ( $n = 84,725$ ). In this survey the respondents indicated whether they provided care in the last twelve months for (1) a family member who was severely ill or needed assistance, (2) to someone longer than 2 weeks because of an illness, accident or hospital admission, (3) to someone who was chronically ill or impaired and/or (4) to someone because of other reasons. When either one or more of these four situations applied, the respondent was identified as an informal caregiver ( $N = 4,484$ ). In the second stage, a

follow-up written questionnaire on informal caregiving was administered. Of the 4,484 identified caregivers, 2,813 participated, 648 refused and another 1,005 did not return the questionnaire. In order to adjust for selective non-response, the remaining sample was weighted for a number of characteristics (gender, age, marital status and region). Respondents provided the information on their own characteristics and the characteristics of their care recipients. After removing the respondents for whom crucial information was missing, for example on the care receiver characteristics, 2,485 remained.

In the present study the data pertain to the 1,685 respondents who provided care to persons over the age of 64. The majority of these respondents provided care to their parent or parent-in-law ( $N = 1,093$ , 65 %), and smaller numbers provided care to their spouse ( $N = 206$ , 12 %) or to other relatives or non-kin ( $N = 386$ , 23 %), such as brother or sister ( $N = 47$ ), grandparent ( $N = 24$ ), other member of the family ( $N = 60$ ), friend ( $N = 120$ ), neighbour ( $N = 109$ ) or another type of social relation ( $N = 26$ ). The sample of caregivers consisted of 1,045 women (62 %) and 640 men, aged between 19 and 85. The care recipients were, on average, 76 years of age, 68 % were female, and they needed care due to a varying range of illnesses: 60 % had one or more chronic diseases (a mix of cognitive and somatic disorders), 10 % was temporarily ill, 19 % was dying and 10 percent was in another care situation.

### Measurements

The research model includes objective stressors (behavioural problems and physical impairment of the care recipient, hours and tasks of caregiving), caregiver characteristics (sex, age, education and religious involvement), motivational factors (types of motivation, preference for formal or informal care), coping behaviour (seeking support from others) and other sources of support (the availability of other informal and formal caregivers, the use of informal caregiver support services). Dependent variables are positive and negative evaluation of caregiving. To reduce the number of single-item variables in the analysis we used mean or sum scores of grouped items whenever possible, checking for scalability of the items with Cronbach's alpha or Mokken scale analysis (Molenaar and Sijtsma 2000). Some indicators were dichotomized to compare two contrasting options, e.g. the (non) applicability of a motivational factor.

### Objective stressors

*Physical limitations* of the care recipient were measured with 13 items related to basic and instrumental activities of daily life, such as being able to dress and bathe, using the

restroom without assistance, walking up and down stairs, doing household chores and shopping for groceries (based on Katz et al. 1970). The answers were 1 = yes, without difficulty; 2 = yes, with difficulty; 3 = no, only with help. Mokken scale analysis was performed to test the homogeneity and reliability of the scale ( $H$  value = 0.66,  $\alpha$  = 0.93). The sum score ranged from 13 to 39.

*Behavioural problems* of the care recipient were measured by 5 items ( $\alpha$  = 0.73), e.g. 'Did the care receiver behave aggressively towards you or others'. The respondent indicated the degree to which each item was appropriate (0 = no, 1 = somewhat, 2 = yes). A mean was calculated, ranging from 0 to 2, then dichotomized into 0 = none or some behavioural problems and 1 = behavioural problems.

*Hours of caregiving* was reported as the average number of hours of care per week in the 12 months prior to the interview. More than 112 hours of care per week was coded as 112 hours per week, as it is the maximum possible number of hours per week excluding 8 hours of sleep per day.

*Number of tasks.* Respondents indicated whether they gave care pertaining to six task types: household tasks, personal care, nursing care, emotional support and supervision, help with organizing chores and administration, and helping with transportation to visits (no, yes). The sum score ranged from 1 to 6.

#### Caregiver characteristics

The following caregiver characteristics were included: gender (men, women), age in years (19–85), educational level (1 = low, only primary education, 2 = median, secondary education, 3 = high, college or university degree), and religious involvement (dichotomized to 0 = attending church once a year or less or never, and 1 = attending church more than once a year).

#### Motivational factors

Respondents indicated the applicability of ten different *motivations for caregiving*. By means of a factor analysis the items were clustered in three types of motivation: (i) the personal bond with the care receiver (4 items, e.g. 'I did it out of love and affection') ( $\alpha$  = 0.69), (ii) the lack of alternative care (3 items, e.g. 'There was nobody else available') ( $\alpha$  = 0.59) and (iii) to prevent residential care (3 items, e.g. 'I did not want the care recipient to be admitted to residential care') ( $\alpha$  = 0.68). Answer categories varied from 1 = not applicable, 2 = somewhat applicable to 3 = strongly applicable. The reliability score of 'lack of alternative care' is rather low because it refers to a lack of care in three different situations (informal care, home care and residential care) that need not necessarily be strongly associated to each other. We

calculated the mean scores for each of the types (range 1–3) and dichotomized the mean scores into 0 = not or somewhat applicable to 1 = strongly applicable.

Three items indicated the *care preference* for informal or formal care, e.g. 'Only after all other solutions have been tried, I would make use of a professional helper' ( $\alpha$  = 0.63). Answer categories (agree, not agree/not disagree and disagree) were dichotomized (0 = no preference for formal care, 1 = preference for informal care). The sum of the three items ranged from 0 to 3, a higher score indicating a higher preference for informal care.

#### Coping behaviour

*Seeking support* was measured by six items referring to asking help from others, e.g. 'I do not dare to ask other relatives or friends to assist in the care provision to the care recipient', and 'People around me are too busy to assist in care provision to the care recipient' ( $\alpha$  = 0.73). The answer categories were dichotomized into 0 = disagree, 1 = agree or not agree/not disagree. The sum score was calculated, ranging from 0 to 6. A higher score indicates that the respondent was not likely to seek support from others.

#### Sources of support

Respondents reported on the *availability of other informal caregivers* giving help to a care recipient (0, 1). Other indicators of external support were the availability of *professional home care* to the care recipient (0, 1), and the *use of at least one out of 12 caregiver support services* (0, 1), varying from information services to respite care.

#### Care evaluation

*Positive evaluation.* Positive evaluation of caregiving was measured by eight items that were based on qualitative interviews with informal caregivers (De Boer et al. 2012a). Two items concerned intrapersonal evaluations ('Looking after my care receiver gave me a good feeling'), two items concerned interpersonal evaluations ('I became closer to my care recipient during the period that I was providing care'), two items concerned new experiences ('Giving care meant I also learned new things myself') and two items covered gains in the larger social network ('Providing care brought me closer to my family and friends'). Answer categories were 0 = did not agree, 1 = (in part) agreed. The sum scale scores for 8 items were computed and varied from 0 (no positive appraisal) to 8 (very positive). The hierarchical order and scalability of the positive evaluation items was tested with the Mokken scale analysis ( $H$  value = 0.38,  $\alpha$  = 0.75), indicating a somewhat weak but nevertheless acceptable scale (Mokken 1971).



*Caregiver burden* is an important result of negative appraisal and measured with an extended version of the Self-perceived pressure from Informal Care Scale (De Boer et al. 2012b). Respondents were asked whether they agreed with 14 statements on perceived time and emotional pressure, such as: ‘Generally speaking I felt very pressured because of the situation of my care recipient’; and ‘I was too tired to do anything in my free time in the period that I was providing help’. The answers were coded 0 = did not agree, 1 = (in part) agreed. The sum scale scores for 14 items of caregiver burden were computed and varied from 0 (not burdened) to 14 (highly burdened). The hierarchical order of the burden items was tested with the Mokken scale analysis ( $H$  value = 0.44,  $\alpha$  = 0.87), indicating a median level of scalability.

### Procedure

Descriptive analyses (in Stata version 12.0) were performed to examine differences in all dependent and independent variables between the three types of caregivers. Chi square tests and F tests were used to examine statistical significance of group differences. To study the association of the independent variables with caregiver evaluation, multivariate linear regression analyses were conducted separately for positive evaluation and burden for each of the subsamples of spousal, child and other types of caregivers. The independent variables were entered in five hierarchical steps: objective stressors, caregiver characteristics, motivational factors and support, use of external support sources and the other form of caregiver evaluation. After each step the proportion of explained variance ( $R^2$ ) is presented, to show whether these blocks of variables contribute in the same amount to the variance in the two outcome variables. It should be noted that the size of the spousal sample is rather small compared to the number of independent variables included, in particular in the final model. This may have increased the threshold for parameters to reach statistical significance. Next, Stata’s *suest* option (Weesie 1999) was used to combine the regression results on the separate subsamples and test for differences in the effects between those subsamples. By using *suest*, differences between groups can be tested without complicated interaction variables that increase the risk of multicollinearity between predictor variables. The full models of the subsamples are presented including reports of statistical significance between the groups coefficients.

## Results

### Comparing the types of care relationships

Table 1 presents descriptive statistics for all variables under study by type of care relationship. The table shows

that spouses reported the highest burden and a higher level of positive evaluation. They also provided the most hours of care and the most care tasks. Spouses were more often male (59 %) and, on average, older and less educated than the other types of caregivers. The large majority of the spouses (74 %) provided care because of the strong personal bond and many of them strongly agreed with the motivation to prevent residential care (38 %). They were the least likely among the caregiver types to ask for help, had a relatively high preference for informal care, and received the least amount of help from other informal and professional caregivers.

Children reported relatively high levels of burden and on average the lowest positive evaluations. They provided care for on average 16.1 hours per week which is about one-third of the care hours of the spousal caregivers. They were more likely to report disturbing behaviours of the care recipient (39 vs. 30 % among the spouses). The large majority (66 %) was female and about one-third had a high level of education. The majority of the children (58 %) strongly agreed to provide care out of the personal bond with the parent and 22 % strongly agreed to prevent residential care. They less often preferred informal to formal care, were more likely to seek support from other helpers and were more likely to share the care activities with other informal and professional caregivers.

The group of other caregivers provided the least hours of care and the fewest tasks compared to the other two groups; they also reported the lowest level of burden and a high level of positive evaluations similar to that of spousal caregivers. Just like child caregivers, the large majority was female (66 %) but their average age was higher (54.9 compared to 49.0 among children). Compared to the other groups, these caregivers were most likely to attend religious services. They take a middle position with respect to seeking support from other helpers and in preference for informal care, but they seemed motivated for the same reasons as the children, and many of them used other sources of support.

### Correlates of burden

Regarding spouses, the estimates in Table 2 show that the level of burden was significantly higher for women, for those who provided many different care tasks, who cared for a spouse with more behavioural problems and for those who were less likely to seek support from others. Burden was also increased for those who provided many hours of care, but due to the small sample size this effect did not reach statistical significance. The same factors were also associated with the level of burden among adult children, but, in this subsample, burden was also increased for those who provided care in order to prevent parental residential

**Table 1** Descriptive statistics for all variables by type of care relationship

	Spousal CG <i>N</i> = 206	Child CG <i>N</i> = 1,093	Other type of CG <i>N</i> = 386	<i>p</i>
Care evaluation	M (SD)	M (SD)	M (SD)	
Positive evaluation (0–8)	4.6 (2.3)	3.9 (2.3)	4.7 (2.1)	**
Burden (0–9)	4.9 (3.6)	4.4 (3.8)	2.1 (2.8)	**
Objective stressors				
Hours of care per week (1–112)	51.7 (51.8)	16.7 (24.2)	10.1 (14.7)	**
Number of care tasks (1–6)	4.2 (1.4)	3.9 (1.2)	2.8 (1.3)	**
CR behavioural problems (% yes)	30	39	32	**
CR physical limitations (13–39)	30.3 (6.1)	31.0 (6.5)	29.9 (6.8)	**
CG characteristics				
% Female	41	66	66	**
Age in years (19–85)	66.5 (8.9)	49.0 (9.9)	54.9 (13.5)	**
Education: % high	19	31	33	**
Religious involvement (% yes)	42	36	49	**
Motives and seeking support				
Personal bond (% agree)	74	58	53	**
Prevent residential care (% agree)	38	22	17	**
No alternative CG (% agree)	5	5	5	n.s.
Preference for informal care (0–3)	1.2 (1.1)	0.7 (0.9)	0.8 (1.0)	**
Seeking support (0–6 = never)	2.0 (1.9)	1.0 (1.3)	1.2 (1.5)	**
Use of support				
Other informal caregiver (% yes)	20	69	52	**
Professional home care (% yes)	22	54	42	**
Mean caregiver support services (0–12)	0.3 (0.4)	0.4 (0.4)	0.2 (0.4)	**

Significance of  $\chi^2$  and *F* values reported: \*  $p < 0.05$ ;  
\*\*  $p < 0.01$ ; *n.s.p* > 0.05

CG caregiver, CR care receiver

care or because no other caregiver was available. Only among children, the use of caregiver support services was associated with higher burden, but the impact was relatively small. Unique for the group of other caregivers was that burden increased when providing care out of a strong personal bond, lacking other informal caregivers and evaluating care less positively. The comparison of the estimates over the three models, using the *suest* option in Stata as explained earlier, showed that for spouses the impact of behavioural problems of the care recipient impacted burden more stronger than for children and other caregivers. Yet, most differences in effect sizes were to be found between the other caregivers on the one hand and spouses and children on the other hand. For example, care intensity (hours of care) was significantly more important for burden among other caregivers than among children and spouses, whereas caring out of a lack of alternatives only impacted burden among children and not or less strongly among other caregivers. The proportion of explained variance in burden by objective stressors was relatively low among children ( $R^2 = 21\%$ ) compared to spouses ( $R^2 = 31\%$ ) and the group of other caregivers

( $R^2 = 33\%$ ). This corroborates that care intensity was less important for burden among children compared to the other types of caregivers. For all groups, objective stressors and, to a lesser degree, seeking support and motivational factors explained the most of the variance in burden, whereas caregiver characteristics, use of support and positive caregiver evaluation added marginally to the variance in burden. In general, it can be concluded that care demands and providing care without help from others increased caregiver burden for all types of caregivers, but that the impact of motivations and the use of external support on burden varied by type of relationship, by type of motivation and type of external support. Positive evaluations were only negatively associated with burden among other caregivers.

#### Correlates of positive evaluations

Table 3 shows that, among spouses, being motivated to prevent residential care, a stronger preference for informal care and a lower level of education added to higher positive evaluations. Rather unexpectedly, not using support

**Table 2** Multivariate regression analysis on burden by type of caregiver ( $n = 1,685$ ): standardized coefficients and proportion explained variance

	Spouse		Child		Other		Difference in coefficients <sup>a</sup>		
	Beta	$\Delta R^2/p$	Beta	$\Delta R^2/p$	Beta	$\Delta R^2/p$	S vs. C	S vs. O	C vs. O
Objective stressors		31 %		21 %		33 %			
Hours of care per week (1–112)	0.22		0.08	**	0.34	**		**	**
Number of tasks (1–6)	0.12	**	0.20	**	0.20	**			
CR physical limitations (0–13)	0.05		0.05		0.05				
CR psychological problems (1–3)	0.39	**	0.24	**	0.18	**	**	**	*
CG characteristics		3 %		3 %		0 %			
Sex CG (female = 1)	0.18	*	0.11	**	0.05			*	
Age CG (19–85)	−0.04		−0.09	**	−0.04				
Education (low–med–high)	0.08		0.04		0.04				
Religious involvement (0, 1)	−0.02		−0.03		0.07				*
CG motivational factors and seeking support		7 %		8 %		6 %			
Motive: personal bond (0, 1)	−0.07		−0.02		0.10	*		*	*
Motive: prevent residential care (0, 1)	0.05		0.07	**	−0.02				
Motive: no alternative (0, 1)	0.00		0.09	**	−0.03				**
Prefer informal care (0–3)	−0.03		−0.02		−0.03				
Not seeking support (1–9)	0.26	**	0.29	**	0.22	**	*		**
Use of support		1 %		1 %		1 %			
Other informal caregivers (0, 1)	0.04		0.05		−0.12	**			*
Use of CG support services (0, 1)	−0.03		0.05	*	0.02				
Professional help present (0, 1)	0.07		0.02		0.04				
Care evaluation		0 %		0 %		1 %			
Positive evaluations (0, 8)	0.08		0.03		−0.11	*		*	*
Total $R^2$		42 %		33 %		41 %			
N	206		1,093		386				

<sup>a</sup> Statistical difference between coefficients; \*  $p < 0.05$ ; \*\*  $p < 0.01$

S spouse, C child, O other, CR care receiver, CG caregiver

services for caregivers also added to a more positive evaluation. This supports the evidence that receiving help is stressful for spouses because they may be dissatisfied with the types of services they receive or because the services they receive do not meet their needs (Winslow 2003). Among children, providing more hours of care per week to care receivers with physical limitations and without behavioural problems also added to a more positive evaluation, as did being female and having a lower level of education. Positive evaluations were also higher among children when they were motivated by the strong personal bond with the parent, and had a stronger preference for informal care. Among the group of other caregivers, caregiving was evaluated more positively by those who were religiously involved, provided care out of a strong personal bond and those who preferred informal care to formal care. The use of caregiver support services and the availability of professional helpers also added to more positive evaluations. Again, only among the group of other

caregivers, a lower level of burden increased the positive evaluations. The test of differences in effect sizes showed that the impact of the strong personal bond on positive evaluations was more statistically significant for children than for spouses, whereas the prevention of residential care was relatively more important for spouses compared to the other types of caregivers. Significant differences were also found regarding the impact of care hours (more important for children than for spouses), care receivers behaviour (more important for children than for other caregivers), religious involvement (more important for other caregivers than to children), the use of professional helpers (more important for other caregivers than for children) and the impact of burden (other caregivers only). The contribution of objective stressors to positive evaluation was relatively high for children, as shown by the 7 % explained variance compared to the 1 and 2 percent for spouses and other caregivers, respectively. For all types of caregivers, motivational factors and preference for informal care provided



**Table 3** Multivariate regression analysis on positive evaluation by type of caregiver ( $n = 1,685$ ): standardized coefficients and proportion explained variance

	Spouses		Child		Other		Difference in coefficients <sup>a</sup>		
	Beta	$\Delta R^2/p$	Beta	$\Delta R^2/p$	Beta	$\Delta R^2/p$	S vs. C	S vs. O	C vs. O
Objective stressors		1 %		7 %		2 %			
Hours of care per week (1–112)	–0.09		0.11	**	0.05		**		
Number of tasks (1–6)	0.00		0.00		0.01				
CR physical limitations (0–13)	–0.01		0.06	*	0.07				
CR psychological problems (% yes)	–0.13		–0.19	**	–0.04				**
CG characteristics		9 %		4 %		3 %			
Sex (female = 1)	–0.02		0.06	*	0.01				
Age in years (19–85)	–0.01		0.02		–0.08				
Education (low–med–high)	–0.24	**	–0.13	**	–0.05			*	
Religious involvement (0,1)	0.13		0.05		0.17	**			*
CG motivational factors and seeking support		10 %		12 %		10 %			
Motive: personal bond (0, 1)	0.10		0.31	**	0.27	**	**		
Motive: prevent residential care (0, 1)	0.20	**	0.01		0.00		**	*	
Motive: no alternative (0, 1)	0.02		–0.03		–0.04				
Prefer informal care (0–3)	0.17	**	0.10	**	0.14	**			
Not asking for help (1–9)	–0.07		–0.04		0.00				
Use of sources of support		4 %		0 %		2 %			
Other informal caregivers (0, 1)	0.06		0.03		–0.03				
Use of CG support services (0, 1)	–0.16	*	0.04		0.10	*	**	**	
Professional help present (0, 1)	0.12		0.00		0.11	*			*
Care evaluation		0 %		1 %		1 %			
Burden (0, 9)	0.11		0.03		–0.15	*		**	**
Total $R^2$		24 %		24 %		18 %			
$N$	206		1,093		386				

<sup>a</sup> Statistical difference between coefficients; \*  $p < 0.05$ ; \*\*  $p < 0.01$

S spouse, C child, O other, CR care receiver, CG caregiver

the largest part of the explained variance in positive evaluation. In addition, caregiver characteristics as level of education and religious involvement also contributed to the variance in positive evaluations. In general, it can be concluded that motivations and preference for informal care added to positive evaluation for all types of caregivers. Differential effects were found in the impact of objective stressors, the type of motivation and the type of external support used.

## Discussion

The study explored the correlates of positive and negative care evaluation in three types of care relationships. Whereas the current knowledge on care evaluation is mostly focused on spouses and adult children as caregivers (Kramer 1997a; Lawton et al. 1991; Marks et al. 2002; Pinquart and Sörensen 2011; Raschick and Ingersoll-Dayton 2004; Savundranayagam et al. 2011), we added more insight into the

characteristics of the group of other caregivers, a rather unexplored type of caregiver so far (cf Schulz et al. 2012). In addition, the study explored the impact of many different types of correlates, which provided more insight in differential effects on burden and positive evaluation and the degree to which the caregiver stress model is applicable to both positive and negative care evaluation. The findings call for three general conclusions. First, the dual nature of caregiving was in particular found among spouses and children, and less among other caregivers. Second, care demands and being the sole caregiver were generally the most important correlates of burden, whereas background variables, motivational factors and use of external support contributed most to positive evaluation. Third, correlates of positive and negative appraisal varied by type of care relationship.

According to the caregiver stress model, the care provision and the care needs of the care receiver are important predictors of caregiver burden. This is also replicated in our study, as our findings showed strong positive effects of

the care load (hours and number of tasks) and the existence of behavioural problems of the care receiver on caregiver burden. In agreement with other studies (Lawton et al. 1991; Savundranayagam et al. 2011), the problem behaviour of the care recipient had more impact on caregiver burden among spousal and child caregivers than the actual care load. Our study adds that this is the other way around for the group of other caregivers, who seemed to be bothered more by longer hours of care than by the behavioural problems of the care receiver. For all three types of caregivers we found that not seeking help from others increased higher levels of burden. These findings suggest that reducing the care load by proactively seeking help from others could contribute to lower care burden (Tolkacheva et al. 2011), but for spouses and adult children this should involve help in dealing with the behavioural problems of the care receiver, whereas for other caregivers this should involve a reduction of the hours of caregiving.

Differences in the correlates of burden were found particularly in the impact of the different care motivations. Whereas none of the three motivations under study were associated with burden among spouses, children reported a higher burden when they aimed to prevent residential care or felt that alternative caregivers were lacking. Among other caregivers, having a strong bond with the care receiver was associated with higher burden. As the large majority of spouses was strongly committed to care, this lack of variation resulted in a non-impact on burden, and even increased the positive evaluation of caring (see further below). For children and especially other caregivers, providing care is more likely to be a choice that appears to be more burdening when one feels more strongly committed to it, either to prevent the parent from residential care (child caregiver) or due to the wish to provide care to a very good friend or neighbour (other caregiver). The lack of alternative caregivers as a motive only applied to 5 % of the child caregivers (Table 1), but appeared to be a very special reason to feel more burdened. It reflects that these child caregivers may feel forced into the caregiving tasks and that lack of choice is associated with worse outcomes for care evaluation as it is for health and wellbeing (Schulz et al. 2012). Helping them to mobilize other informal and formal caregivers may reduce the level of burden in this particular group of caregivers.

Regarding positive evaluation of caregiving, the results were only partially in agreement with the caregiver stress model. It is clear that the objective stressors, which are so important for caregiver burden, hardly contributed to positive evaluations. What seemed to be most important for positive evaluations were indicators of preferences, motivations and attitudes regarding informal caregiving, or in other words, the dispositional dimension of caregiving. A higher disposition towards informal care is reflected in

individual cognitions and standards that can be either general ('it is better to receive informal care than formal care') or person-specific ('I want to prevent my mother from being placed in residential care'). Among all care relationship types a stronger preference for informal care over formal care contributed to more positive evaluation. The positive effect of religious involvement and a lower level of education suggest the importance of general values and attitudes in caregiving, as among the religious and the lower educated strong norms exist regarding helping one's community members or close relatives (Goodman et al. 1997). Feeling that you are doing the good thing clearly helps to evaluate the caregiving positively. These findings suggest that the caregiver stress process is more influenced by a dispositional dimension than was originally suggested by Pearlin et al. (1990).

The varying effects among spouses and children suggest that the caregiving process is a different experience for these two types of care relationships. The differential effects on burden may in part be due to the large variation in level of care intensity and motivational factors among children. Whereas spouses are more alike in sharing a high care load and a strong commitment to care, adult children vary largely in these aspects. For example, children are likely to share the care; 69 % of the children reported the presence of other informal caregivers. It could also be that many of the children in the sample were actually secondary helpers, for whom the caregiving was a different experience than for those who took the role of the primary caregiver. This may also explain why providing more hours of care was positively associated with both burden and positive evaluations among the children but not among the spouses. In short, caregiving may be a positive experience for some children, yet a negative experience for others. This variation is less likely to occur among spousal caregivers.

The findings also suggest that caregiving is a different process for the group of 'other caregivers' than for spouses and children. Only among this group, burden was negatively associated with positive evaluations, which may be due to the relatively positive care context and disposition of this type of caregiver. The group of other caregivers includes a large range of relatives, neighbours and friends. Clearly, this type of caregiver is not the sole provider, as 52 % reports the presence of other informal helpers and 42 % reports the presence of professional caregivers. Notable is that the assistance of others increases positive evaluations whereas the lack of it increases burden, which is not the case among spouses and children. It is likely that a too heavy care load scares this type of caregiver away, while it is more difficult for a spouse or a child to quit caregiving. For spouses and children, this lack of choice may result in both high levels of positive and negative

evaluation, whereas the group of other caregivers will be more able to choose care provision in a context in which burden is low and positive evaluation is high.

Three limitations of the current study need to be mentioned. The first concerns the fact that the data do not allow a distinction between parents and parents-in-law among the care receivers, which might have increased the variation in care contexts and motivational factors among child caregivers. Providing care to a parent-in-law is generally a less intensive task than providing care to a parent (Pinquart and Sörensen 2011), and there may also be different levels of commitment. Still, daughters are often caregivers to parents-in-law, in particular to the mother-in-law, providing more hours of care than their husbands (Szinovacz and Davey 2008). Our large number of female child caregivers may nuance supposed differences between children and children-in-law. Another limitation is that we used a one-dimensional measurement of burden, while others showed that burden is a multidimensional concept, in which objective burden, stress burden and relationship burden can be distinguished (Savundranayagam et al. 2011). Compared to the burden measure used by Savundranayagam and colleagues, our measure includes items referring to objective and stress burden subscales and does not include items referring to relationship burden subscale. It can be assumed that strong commitment may lower relationship burden among spouses but not among children. Their study showed that the care context had similar effects on the three dimensions of burden among spouses and children, but they did not include other determinants of burden. In future research the use of the multi-dimensional concept of burden and positive evaluation is advised. Third, the findings from this cross-sectional study reflect a snapshot of the care experiences of spouses, children and other caregivers which does not allow studying how positive and negative evaluations of caregiving interact in the long run. It is known that caregiver appraisal, coping and reappraisal fluctuate over time (Bacon et al. 2009). In long trajectories of caregiving, it may be that positive evaluation is high at first then decreases while burden increases, and in the long run increases again due to the fact that providing care for a loved one as long as it takes contributes to satisfaction, fulfilment and feelings of appreciation. Longitudinal studies on care evaluation are needed in which all elements of the care process are included. This may provide more insight into the conditions under which negative and positive evaluations may be intertwined, in particular among spouses and children.

In conclusion, our study sheds light on the distinct pathways of positive and negative evaluation of caregiving in three types of care relationships. Using a large, national representative sample of informal caregivers, it was shown why caregiving is a mixed experience, in particular for

spouses and children. Motivational factors are important predictors of positive and negative evaluation but they are, perhaps, less malleable than the more practical aspects of care. Sharing responsibilities in the care network will likely reduce the task load and perhaps also increase the motivation to provide long-term care, resulting in lower negative evaluation of caregiving and higher positive evaluation. For the group of other caregivers, the sharing of responsibilities may involve reducing the objective burden (time-related hours of caregiving), whereas for spouses and children such sharing should involve reducing the emotional distress that results from having to deal with changes in the relationship with the care recipient.

## References

- Bacon E, Milne DL, Sheikh AI, Freeston MH (2009) Positive experiences in caregivers: an explanatory case series. *Behav Cogn Psychother* 37:95–114
- Balducci C, Mnich E, McKee KJ, Lamura G, Beckmann A, Krevers B, Oberg B (2008) Negative impact and positive value in caregiving: validation of the COPE index in a six-country sample of carers. *Gerontology* 48:276–286
- Barker JC (2002) Neighbors, friends, and other nonkin caregivers of community-living dependent elders. *J Gerontol B Soc Sci* 57: S158–S167
- Baronet A (2003) The impact of family relations on caregivers' positive and negative appraisal of their caretaking activities. *Fam Relat* 52:137–142
- Chapell NL, Reid RC (2002) Burden and well-being among caregivers: examining the distinction. *Gerontologist* 42:772–780
- Cohen CA, Colantonio A, Vernich L (2002) Positive aspects of caregiving: rounding out the caregiver experience. *Int J Geriatr Psychiatry* 17:184–188
- De Boer A, Broese van Groenou M, Timmermans J (2009) (red.) *Mantelzorg; een overzicht van de steun van en aan mantelzorgers in 2007*. [Informal care; an overview of the support to and from informal caregivers in 2007]. Netherlands Institute for Social Research, The Hague
- De Boer A, Oudijk D, Broese van Groenou M, Timmermans J (2012a). *Positieve ervaringen door mantelzorg; constructie van een schaal*. [Positive evaluation of informal care: construction of a scale] *Tijdschr Gerontol Geriatr* 43:243–55
- De Boer A, Oudijk D, Timmermans J, Pot AM (2012b) *Ervaren belasting door mantelzorg - constructie van de EDIZ-plus*. [Caregiver burden in informal care—construction of the EDIZ-plus scale]. *Tijdschr Gerontol Geriatr* 43:77–89
- Egging S, De Boer AH, Stevens NL (2011) *Zorgzame vrienden en burens als mantelzorgers van oudere volwassenen: een vergelijking met kinderen*. [Caring friends and neighbors as caregivers of older adults: a comparison with children]. *Tijdschr Gerontol Geriatr* 42:243–255
- Goodman CR, Zarit SH, Steiner VL (1997) Personal orientation as a predictor of caregiver strain. *Aging Ment Health* 1:149–157
- Hilgeman M, Durkin DW, Sun F, DeCoster J, Allen RS, Gallagher-Thompson D, Burgio LD (2009) Testing a theoretical model of the stress process in Alzheimer's caregivers with race as moderator. *Gerontology* 49:248–261
- Himes CL, Reidy EB (2000) The role of friends in caregiving. *Res Aging* 22:315–335

- Iecovich E (2011) Quality of relationships between care recipients and their primary caregivers and its effects on caregivers' burden and satisfaction in Israel. *J Gerontol Soc Work* 54:570–591
- Katz S, Downs TD, Cash HR, Grotz RC (1970) Progress in development of the index of ADL. *Gerontology* 10:20–30
- Kramer BJ (1993) Marital history and the prior relationship as predictors of positive and negative outcomes among wife caregivers. *Fam Relat* 42:367–375
- Kramer BJ (1997a) Differential predictors of strain and gain among husbands caring for wives with dementia. *Gerontology* 37:239–249
- Kramer BJ (1997b) Gain in the caregiving experience: where are we, what next? *Gerontology* 37:218–232
- Lawton MP, Moss M, Kleban MH, Glicksman A, Rovine M (1991) A two-factor model of caregiving appraisal and psychological well-being. *J Gerontol B Psychol Sci* 46:P181–P189
- Lopez J, Lopez-Arrieta J, Crespo M (2005) Factors associated with the positive impact of caring for elderly and dependent relatives. *Arch Gerontol Geriatr* 41:81–94
- Lyonette C, Yardley L (2003) The influence on carer wellbeing of motivations to care for older people and the relationship with the care recipient. *Ageing Soc* 23:487–506
- Marks NF, Lambert JD, Choi H (2002) Transitions to caregiving, gender and psychological well-being: a prospective U.S national study. *J Marriage Fam* 64:657–667
- Mokken RJ (1971) A theory and procedure of scale analysis. Mouton, The Hague; De Gruyter, Berlin
- Pearlin LI, Mullan JT, Semple SJ, Skaff MM (1990) Caregiving and the stress process: an overview of concepts and their measures. *Gerontology* 30:583–594
- Pinquart M, Sörensen S (2003) Associations with stressors and uplifts of caregiving with caregiver burden and depressive mood: a meta-analysis. *J Gerontol B Psychol Sci* 58:P112–P128
- Pinquart M, Sörensen S (2011) Spouse, adult children and children-in-law as caregivers of older adults: a meta-analytic comparison. *Psychol Aging* 26:1–14
- Rapp SR, Chao D (2000) Appraisals of strain and gain: effects on psychological wellbeing of caregivers of dementia patients. *Aging Ment Health* 4:142–147
- Raschick M, Ingersoll-Dayton B (2004) The costs and rewards of caregiving among aging spouses and adult children. *Fam Relat* 53:317–325
- Robertson SM, Zarit SH, Duncan LG, Rovine MJ, Femia EE (2007) Family caregivers' patterns of positive and negative affect. *Fam Relat* 56:12–23
- Savundranayagam MY, Montgomery RJV, Kosloski K (2011) A dimensional analysis of caregiver burden among spouses and adult children. *Gerontologist* 51:321–331
- Schulz R, Beach SR, Cook TB, Martire LM, Tomlinson JM, Monin JK (2012) Predictors and consequences of perceived lack of choice in becoming an informal caregiver. *Aging Ment Health* 16:712–721
- Shirai Y, Silverberg Koerner S, Kenyon DYB (2009) Reaping caregiver feelings of gain: the roles of socio-emotional support and mastery. *Aging Ment Health* 13:106–117
- Molenaar IW, Sijtsma, K (2000) User's manual Msp5 for Windows: a program for mokken scale analysis for polytomous items, version 5.0. Iec ProGAMMA, Groningen
- Szinovacz ME, Davey A (2008) The division of parent care between spouses. *Ageing Soc* 28:571–597
- Tarlow BJ, Wisniewski SR, Belle SH, Rubert M, Ory MG, Gallagher-Thompson D (2004) Positive aspects of caregiving: contributions of the REACH Project to the development of new measures for Alzheimer's caregiving. *Res Aging* 26:429–453
- Tolkacheva N, Broese van Groenou MI, De Boer A, Van Tilburg TG (2011) The impact of the informal caregiving network on adult child's caregiver burden. *Ageing Soc* 31:34–51
- Weesie J (1999) Seemingly unrelated estimation and the cluster-adjusted sandwich estimator. *Stata Tech Bull* 52:34–47 (reprinted in *Stata Tech Bull Reprints* 9:231–248. Stata Press, College Station)
- Winslow BW (2003) Family caregivers' experiences with community services: a qualitative analysis. *Public Health Nurs* 20:341–348
- Yates ME, Tennstedt S, Chang BH (1999) Contributors to and mediators of psychological well-being for informal caregivers. *J Gerontol B Psychol Sci* 54:P12–P22
- Zarit SH (2012) Positive aspects of caregiving: more than looking at the bright side. *Aging Ment Health* 16:673–674